--23. (New) A method of controlling a gas concentration sensor as in claim 17, wherein:

the voltage and the current of the sensor are a voltage applied to the sensor and a current generated by the sensor, respectively; and

the gas concentration is detected from the current generated by the sensor.

24. (New) A method of controlling a gas concentration sensor as in claim 20, wherein:

the voltage and the current of the sensor are a voltage applied to the sensor and a current generated by the sensor, respectively; and

the gas concentration is detected from the current generated by the sensor.

25. (New) A method of controlling a gas concentration sensor as in claim 21, wherein:

the voltage and the current of the sensor are a voltage applied to the sensor and a current generated by the sensor, respectively; and

the gas concentration is detected from the current generated by the sensor.

26. (New) A method of controlling a gas concentration sensor as in claim 22, wherein the voltage and the current of the sensor are a voltage applied to the sensor and a current generated by the sensor, respectively.--

REMARKS

By this amendment, claims 17-22 have been revised and new claims 23-26 have been added. Further, it has been discovered that the Form PTO-1449 filed with this application, listing the prior at cited by applicant and/or the Examiner during prosecution of parent Application No. 09/060,163, included a typographical error. In

that regard, the fifth listed reference should have been listed as U.S. Patent No. 5,781,878 Accordingly, a corrected Form PTO-1449 listing the art cited during prosecution in the parent application is attached. Please now consider that art and initial and date the herewith-corrected Form PTO-1449. A copy of the initialed and dated Form should be returned to the undersigned with the first Official Action.

An early and favorable Action on the merits is respectfully requested.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Please substitute the following amended claims for corresponding claims previously presented. A copy of the amended claims showing current revisions is attached.

17. (Amended) A method of controlling a gas concentration sensor comprising the steps of:

detecting an impedance of the sensor from a voltage [applied to] of the sensor and a current [generated by] of the sensor;

detecting a gas concentration [from the current generated by] with the sensor;

changing the detected impedance in accordance with a predetermined operating parameter of the sensor in the step of detecting the impedance; and

limiting a change of the detected impedance to be within a predetermined change rate.

20. (Amended) A method of controlling a gas concentration sensor comprising the steps of:

detecting an impedance of the sensor from a voltage [applied to] of the sensor and a current [generated by] of the sensor;

detecting a gas concentration [from the current generated by] with the sensor;

changing the detected impedance in accordance with a predetermined operating parameter of the sensor in the step of detecting the impedance; and

outputting a signal of the detected impedance through a low pass filter.

21. (Amended) A method of controlling a gas concentration sensor comprising the steps of:

detecting an impedance of the sensor from a voltage [applied to] of the sensor and a current [generated by] of the sensor;

detecting a gas concentration [from the current generated by] with the sensor; and

limiting the detected impedance to a limited range of change when the detected impedance changes more than a predetermined rate.

22. (New) A method of controlling a gas concentration sensor comprising the steps of:

detecting impedances of the sensor from a voltage [applied to] of the sensor and a current [generated by] of the sensor a plurality of times; and

using an average of at least two of the detected impedances as a current detected impedance.

Kindly add the following new claims:

--23. (New) A method of controlling a gas concentration sensor as in claim 17, wherein:

the voltage and the current of the sensor are a voltage applied to the sensor and a current generated by the sensor, respectively; and

the gas concentration is detected from the current generated by the sensor.

24. (New) A method of controlling a gas concentration sensor as in claim 20, wherein:

the voltage and the current of the sensor are a voltage applied to the sensor and a current generated by the sensor, respectively; and

the gas concentration is detected from the current generated by the sensor.

25. (New) A method of controlling a gas concentration sensor as in claim 21, wherein:

the voltage and the current of the sensor are a voltage applied to the sensor and a current generated by the sensor, respectively; and

the gas concentration is detected from the current generated by the sensor.

26. (New) A method of controlling a gas concentration sensor as in claim 22, wherein the voltage and the current of the sensor are a voltage applied to the sensor and a current generated by the sensor, respectively.--